Tolling Engineer for SR 167 HOT Lanes

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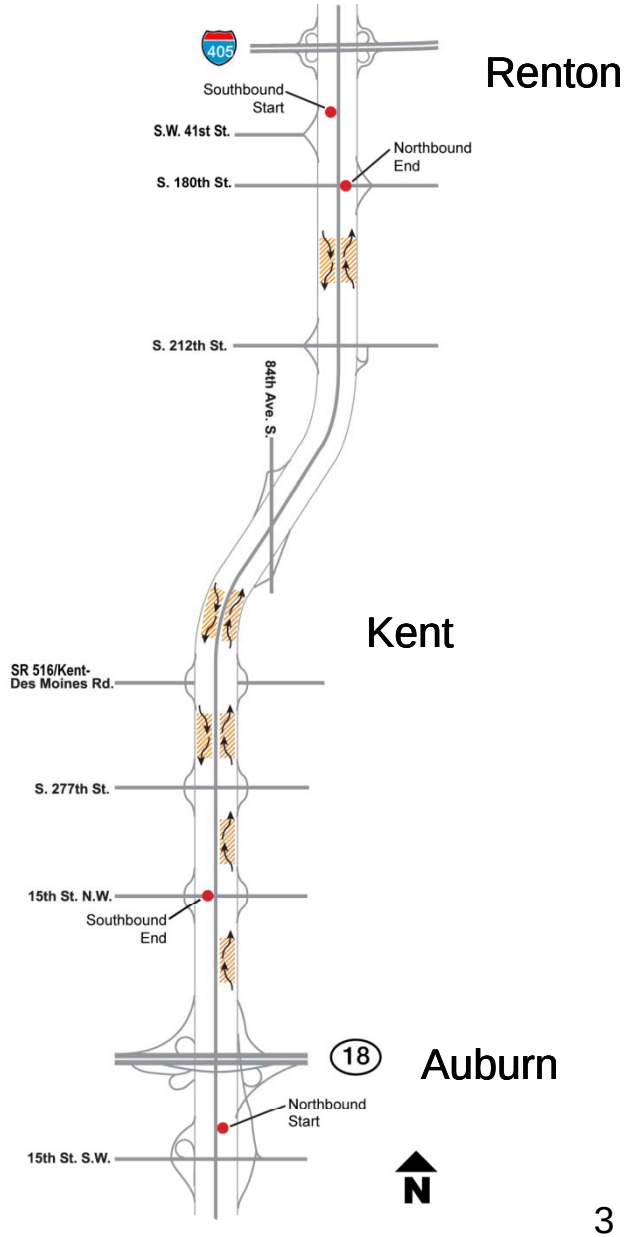
History of tolling in Washington

- Revenue generation (1940s – 1970s)
  - Construction of new facilities
    - Tacoma Narrows Bridge, I-90, Hood Canal
- Dual purposes (2007 – present)
  - Congestion mitigation and construction
    - SR 167 HOT lanes, New Tacoma Narrows Bridge

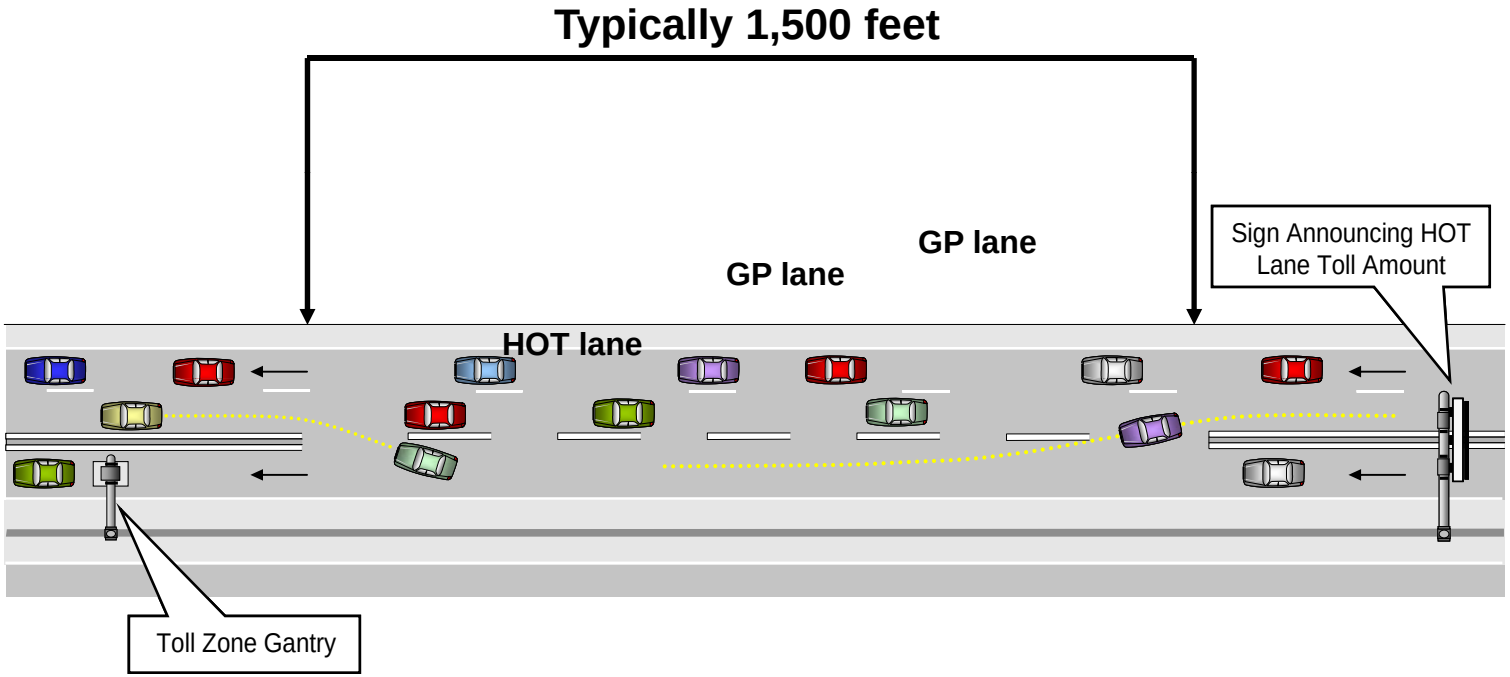
HOT lanes key features

- Free flow operations goal for HOT lanes: at least 45 mph - 90% of the time during peak period.
- More than nine miles of HOT lanes southbound and 11 miles northbound.
- 10 access points.
- HOV 2+ and motorcycles toll-free.
- Tolls during the day, open to all traffic at night.
- Variable tolls between 50¢ and $9
- Revenue pays for operations and maintenance, enforcement, and incident response.
- Central system monitors lanes

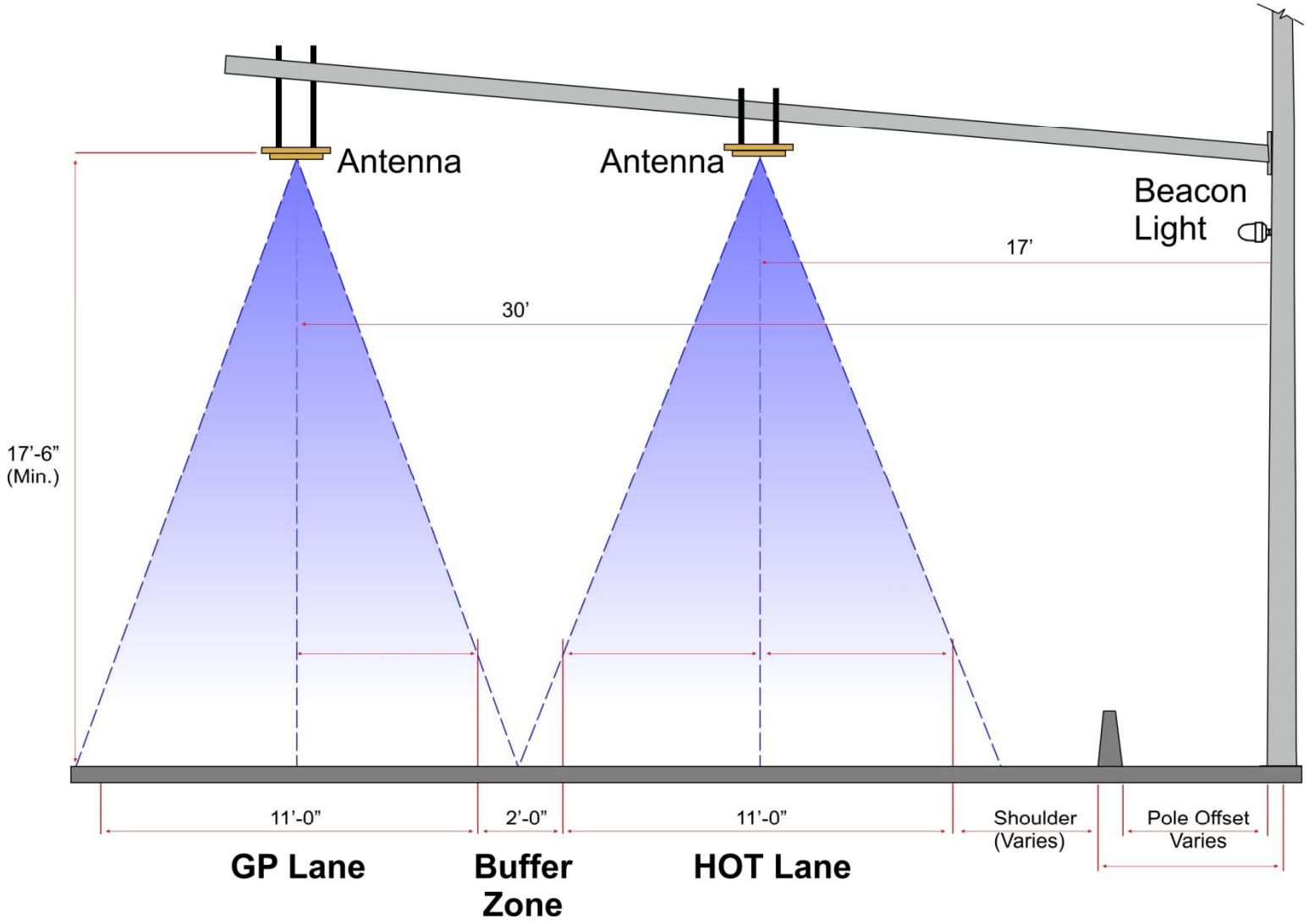


Access points

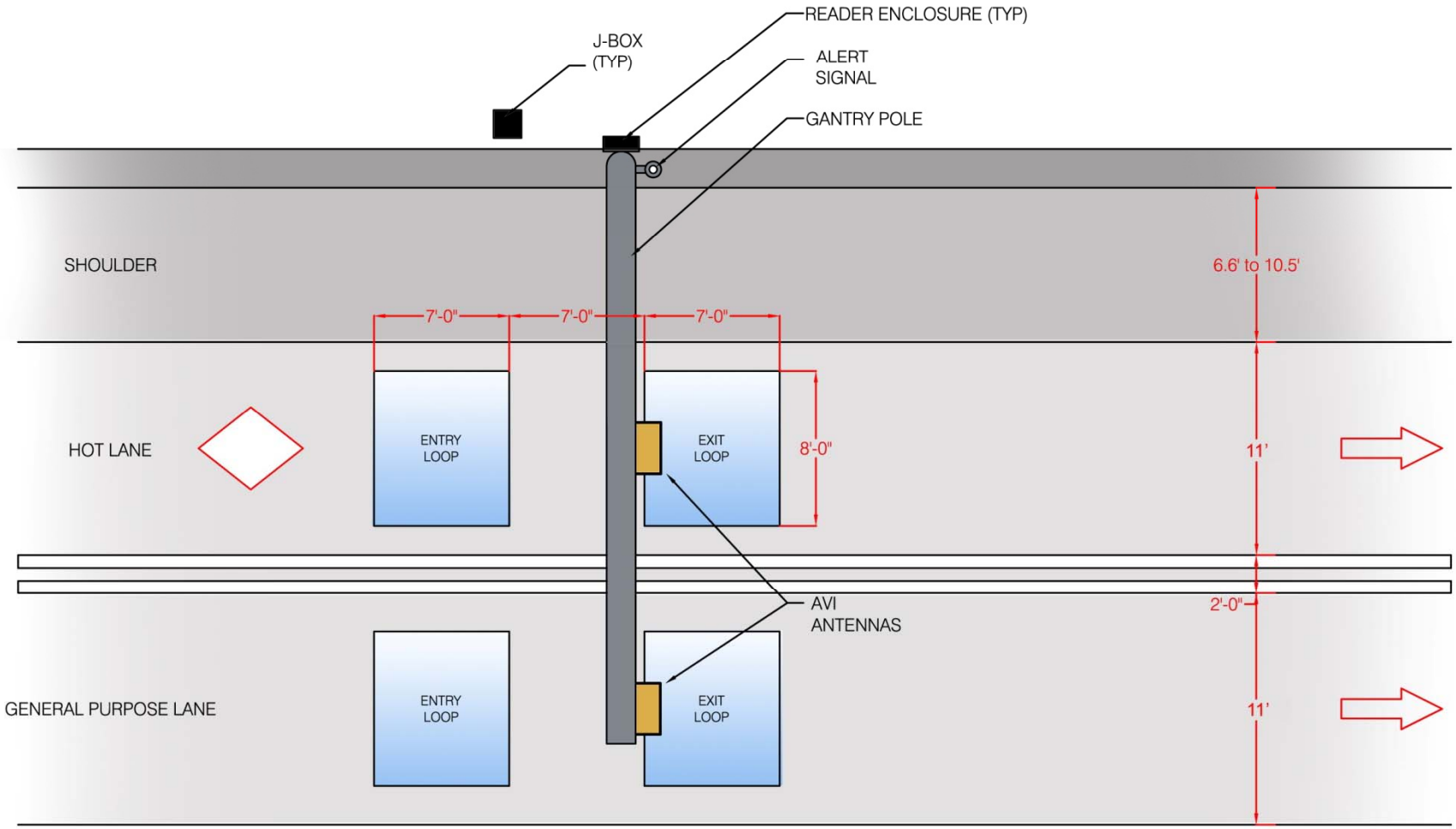
- Access points - defined locations for entering and exiting the HOT Lane.



How it works: Lane discrimination



How it works: System design



How it works: Roadside Equipment

Antenna

Enforcement beacons

How it works: roadside cabinet

Readers

Lane controllers

UPS

Tolling Engineer - HOT lanes

- Project management
- Design and testing
- Public outreach
- Operations, including system opening
- Initial data review and system modifications

Project Management

- Vendor contract negotiations
- Budget and schedule monitoring
- Vendor contract management, including requirements monitoring and change management
- Weekly coordination meetings
- FHWA tolling agreement
- Coordination with many groups inside and outside of WSDOT
- Toll rate setting

Design and testing

- Civil design (signs, access locations)
- Design process monitoring
- System development workshop
- System design review
- Initial system testing in Texas
- Field testing, before and after operations
- Computer network design and implementation

Public outreach

- Educating the public
- Attending public meetings
- Answering emails and phone calls from the public
- Giving presentations to civic groups and other organizations

Operations

- Final preparation for initial operations
- Training WSDOT staff on new system
- Throwing the switch on day one
- First week operations monitoring
- Coordinating system modifications

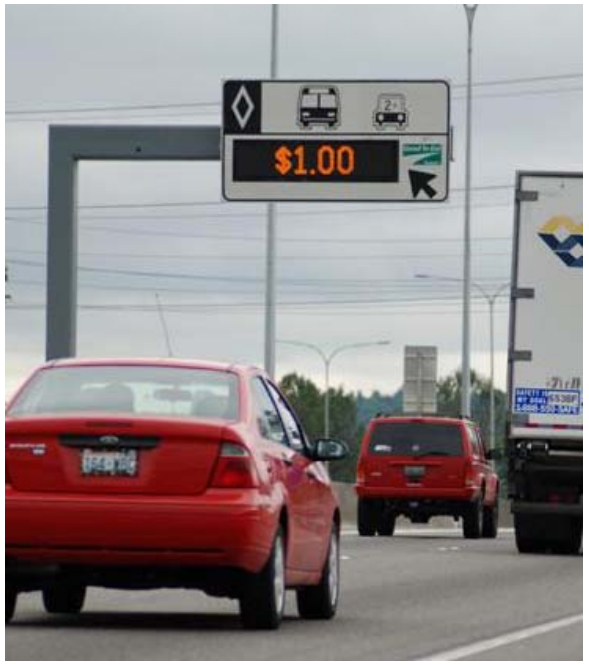
Important Skills

- Communications
  - formal and informal, written and verbal
- Critical thinking and problem-solving
- Project management
- Flexibility
- Traffic operations, flow theory, and modeling
- Civil infrastructure design
- Tolling equipment and system understanding

Highlights: year one

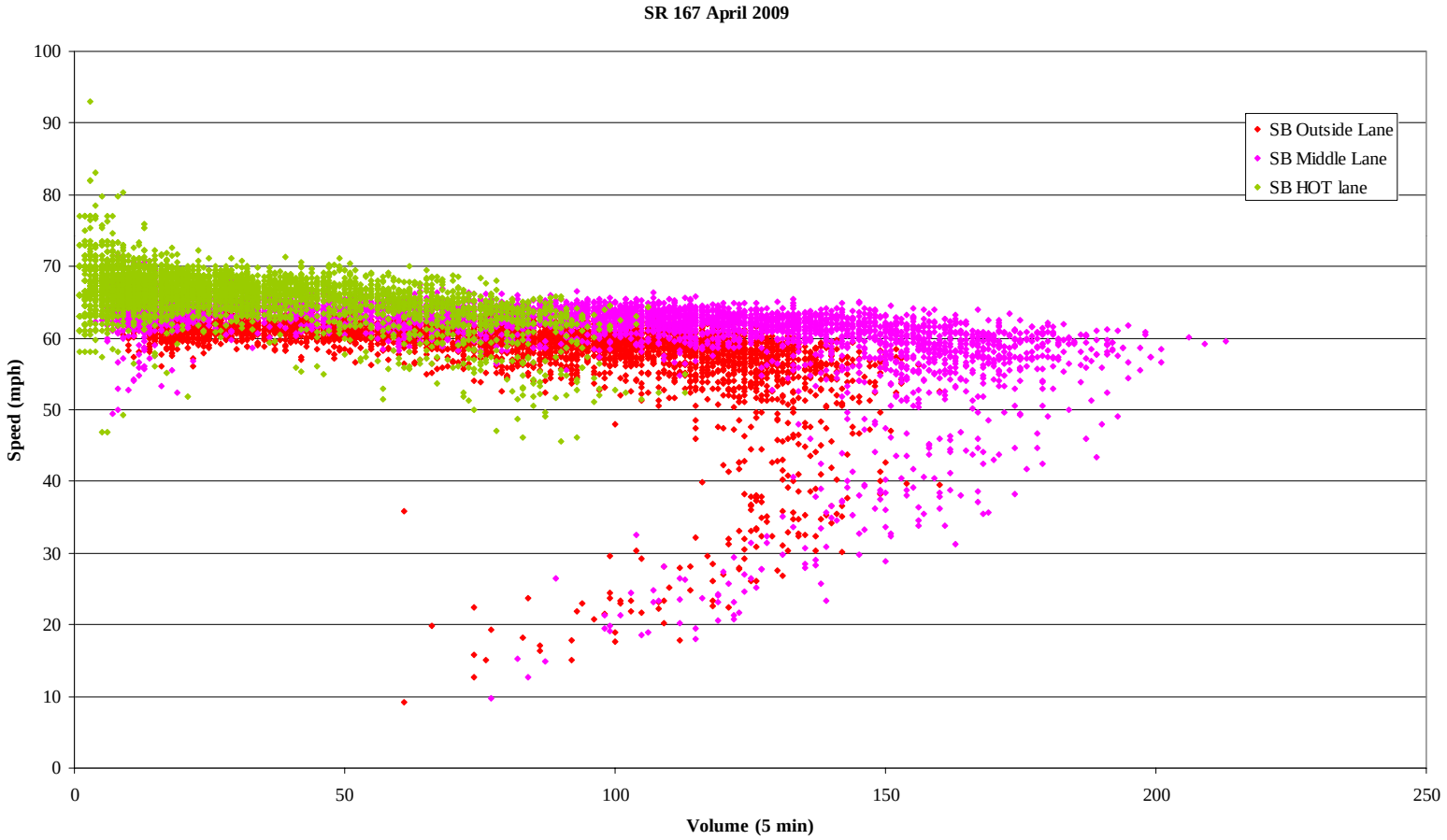
May 2008 – April 2009

- General purpose lanes
  - speeds increased 10%;
  - volumes increased 3% – 4%
- HOT lanes
  - speeds increased 7% – 8%;
  - volumes increased 1% – 3%
- HOT lane operates at or above 45 mph 99.2% of the time during peak hours
- More than 30,000 *Good To Go!* vehicles
- No apparent safety impacts
- Available capacity remaining



Speed and volume

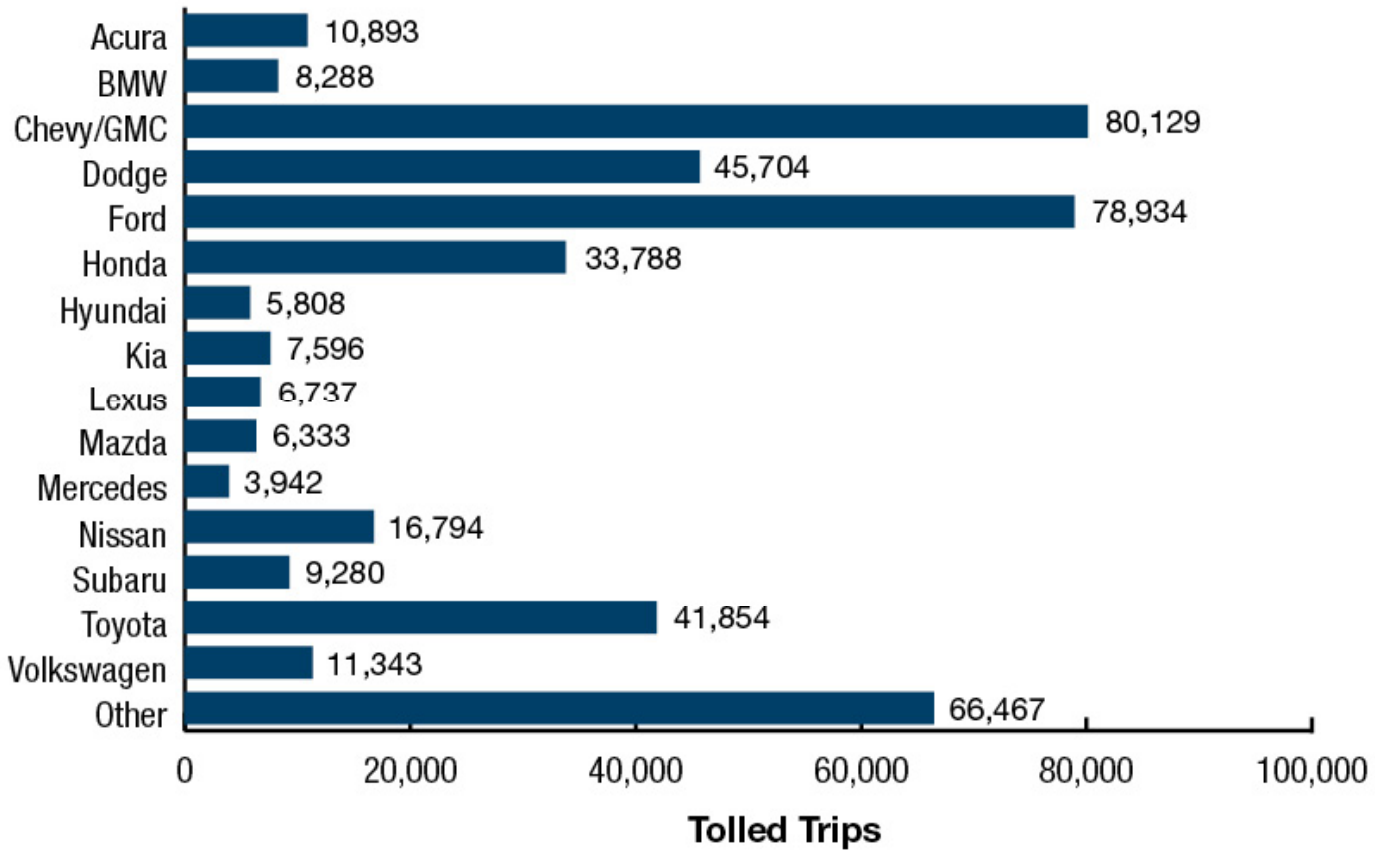
Southbound SR 167 - April 2009



Type of vehicles using the lanes

Five most frequently tolled vehicles in HOT lanes:

1. Chevrolet
2. Ford
3. Dodge
4. Toyota
5. Honda



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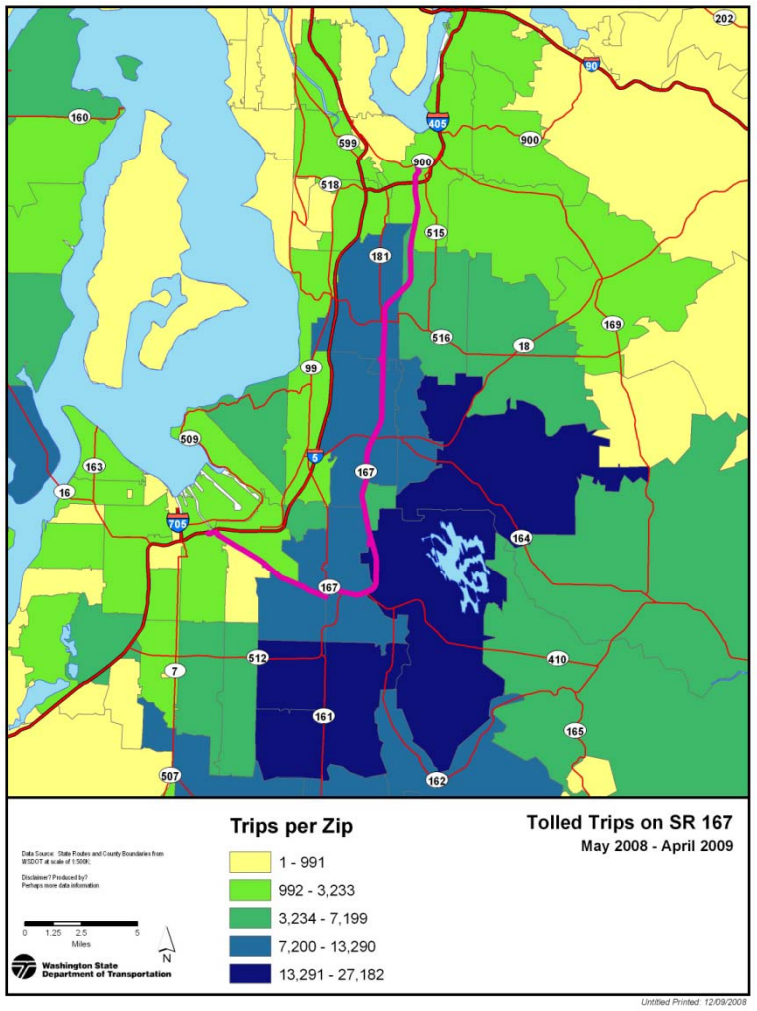
Geographic pattern

- Trips per zip code correlated with
  - Customer satisfaction
  - Trip length
    - Access
    - Pricing algorithm



Active Traffic Management

- Technology
- Dual Purpose
  - Reduce secondary collisions
  - Decrease congestion

For more information

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Good To Go!
wsdot.wa.gov/goodtogo

Pilot project Web page:
wsdot.wa.gov/Projects/SR167/HOTLanes

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